WISCONSIN DEPARTMENT OF HEALTH SERVICES
Division of Public Health
Bureau of Communicable Diseases and Emergency Response

Respiratory virus surveillance report for the week ending November 1, 2014 week 14-44

AT-A-GLANCE

- Respiratory viruses identified this week :
  Rhinovirus/enterovirus was the predominant virus this week. Influenza A and parainfluenza have also been identified.

- Influenza-like illness (ILI) activity for this week

Wisconsin	Moderate
Wisconsin (CDC level)	Minimal
Northwestern Region	Low
Northeastern Region	High
Southeastern Region	Moderate
Southern Region	Low

- ILI activity in Region V of the U.S. (WI, MN, IL, MI, OH, IN) is below baseline levels

- ILI activity in the U.S. is below baseline levels

- The Predictive Value Positive (PVP) for rapid influenza and RSV tests is: Low (PVP is the probability of disease in a patient with a positive test result)

- The Predictive Value Negative (PVN) for rapid influenza and RSV tests is: High (PVN is the probability of not having disease when the test result is negative)

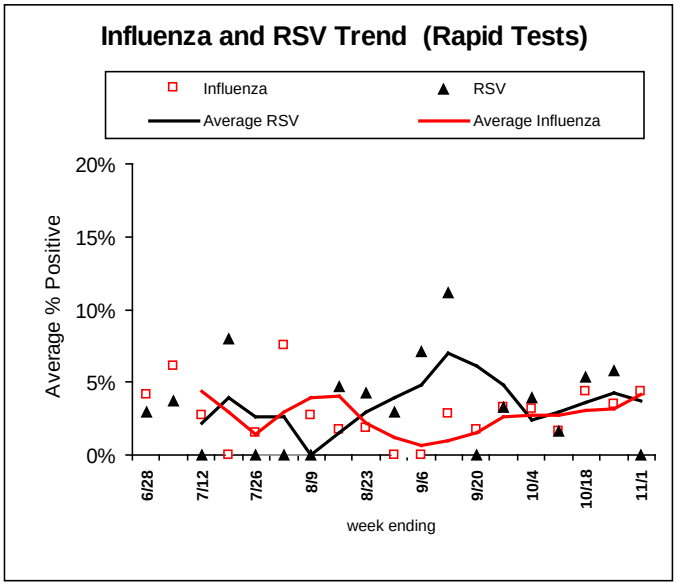
- Influenza-associated pediatric deaths reported (October 4, 2014-present)

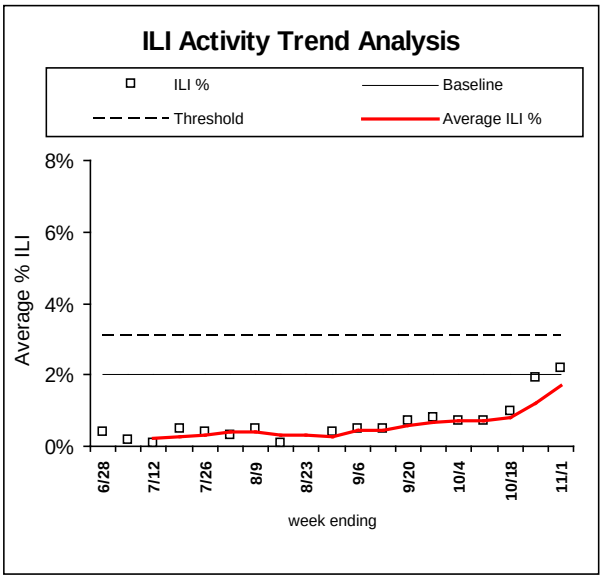
	Week 14-44	Total to Date
Wisconsin	0	0
Nationwide	1	1

WISCONSIN and REGIONAL SUMMARIES
(Trend analysis based on 3-week moving averages)

Wisconsin (ILI activity is Moderate)

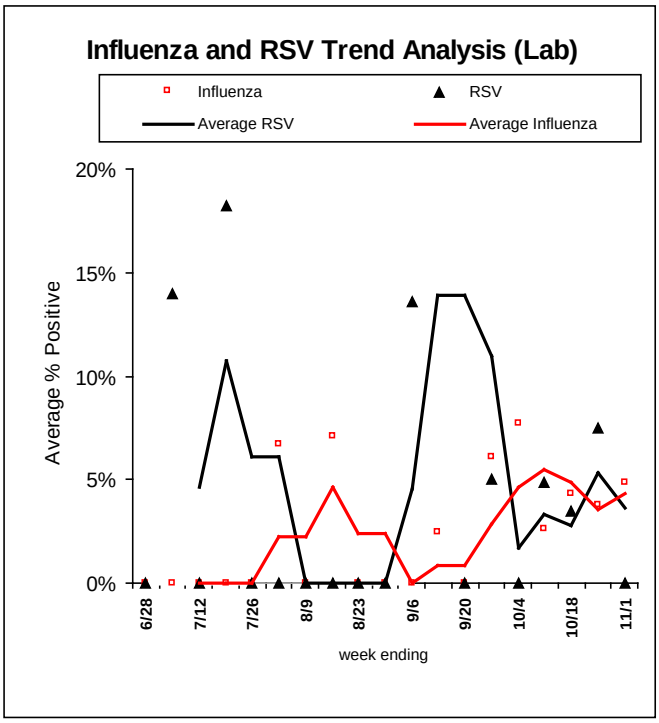
INFLUENZA RAPID ANTIGEN TESTS					RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS		
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
434	5	14	19	4.4%	104	0	0%	2.2%	2.0%	3.1%

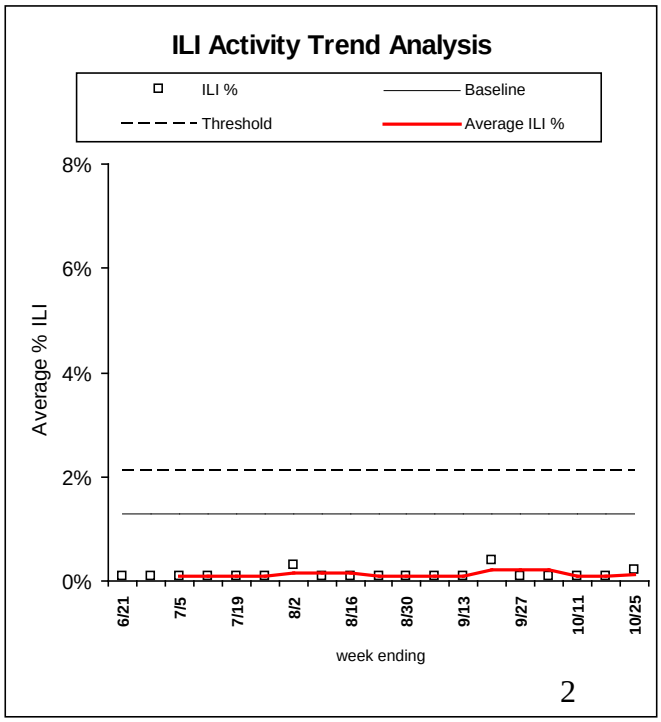




Northwestern Region (ILI activity is Low)

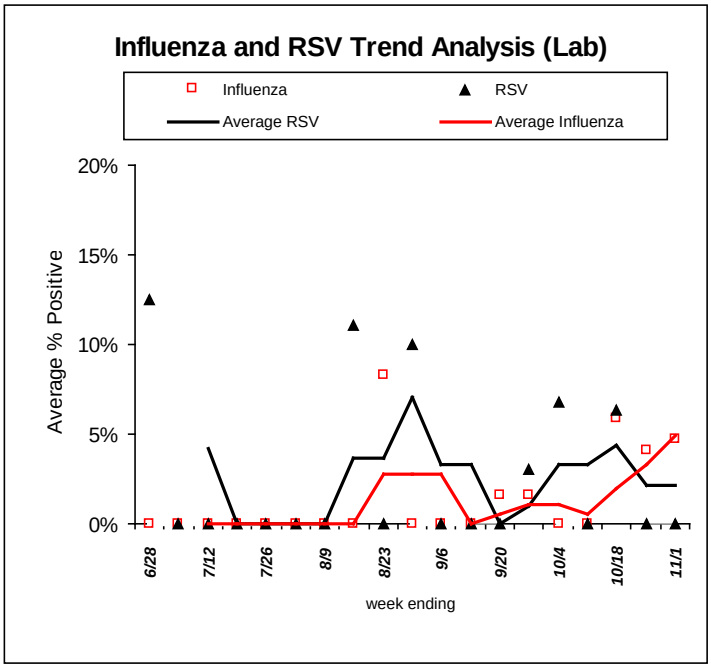
INFLUENZA RAPID ANTIGEN TESTS					RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS		
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
144	3	4	7	4.9%	39	0	0%	0.2%	1.3%	2.1%

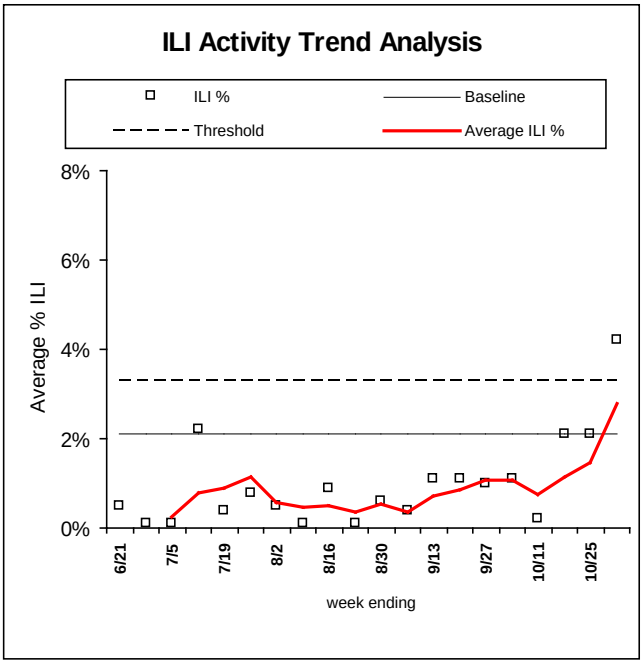




Northeastern Region (ILI activity is High)

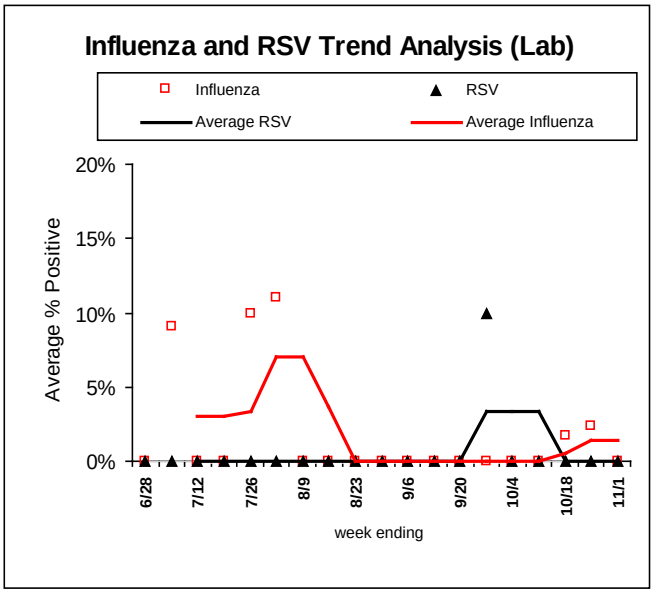
INFLUENZA RAPID ANTIGEN TESTS					RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS		
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
106	2	3	5	4.7%	25	0	0%	4.2%	2.1%	3.3%

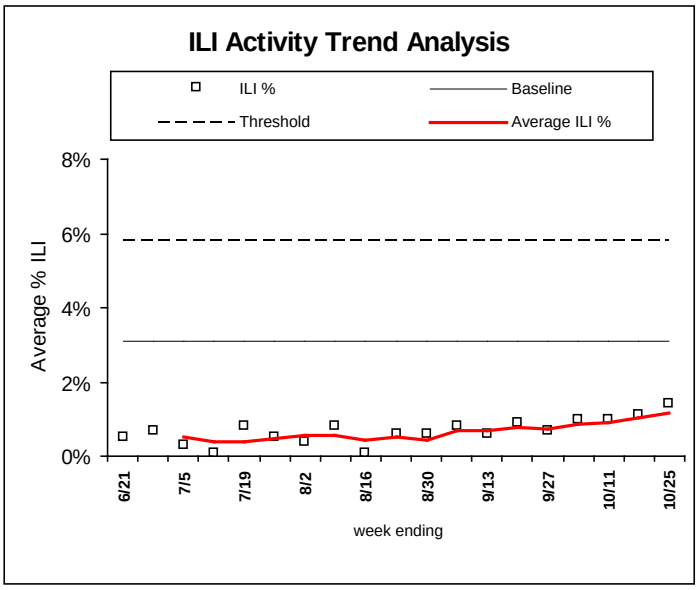




Southern Region (ILI activity is Low)

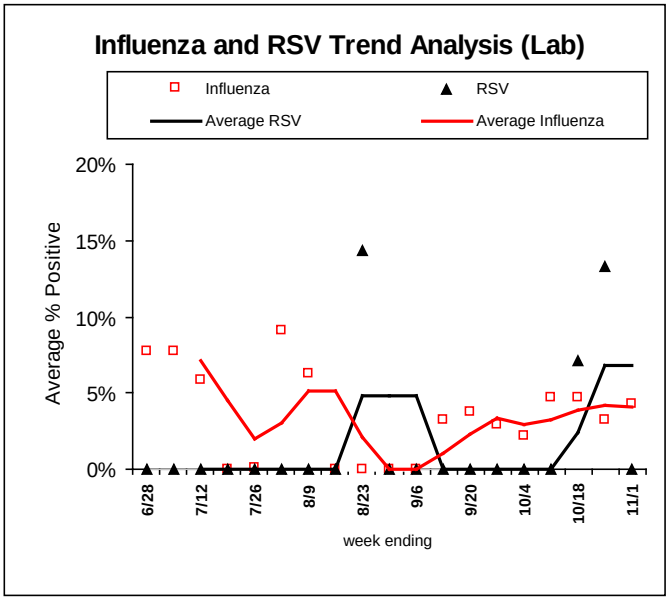
INFLUENZA RAPID ANTIGEN TESTS					RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS		
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
20	0	0	0	0%	3	0	0%	1.4%	3.1%	5.8%

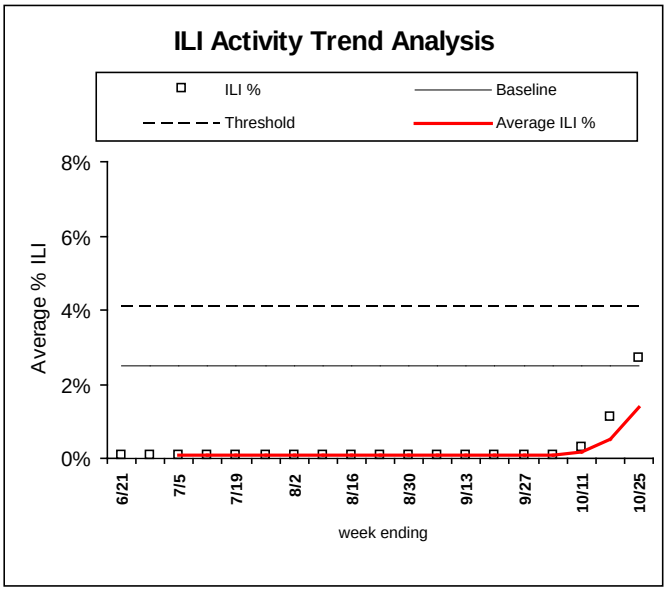




Southeastern Region (ILI activity is Moderate)

INFLUENZA RAPID ANTIGEN TESTS					RSV RAPID ANTIGEN TESTS			INFLUENZA-LIKE ILLNESS		
Tested	Positive			% Positive	Tested	Positive	% Positive	ILI %	Baseline	Threshold
	Flu A	Flu B	Total							
164	0	7	7	4.3%	37	0	0%	2.7%	2.5%	4.1%





For the 2013-14 influenza season, data from the Western Region and the Northern Region will be combined and referred to as the Northwestern Region. This change was made in response to the small number of providers who participate in our weekly surveillance in the Northern Region.

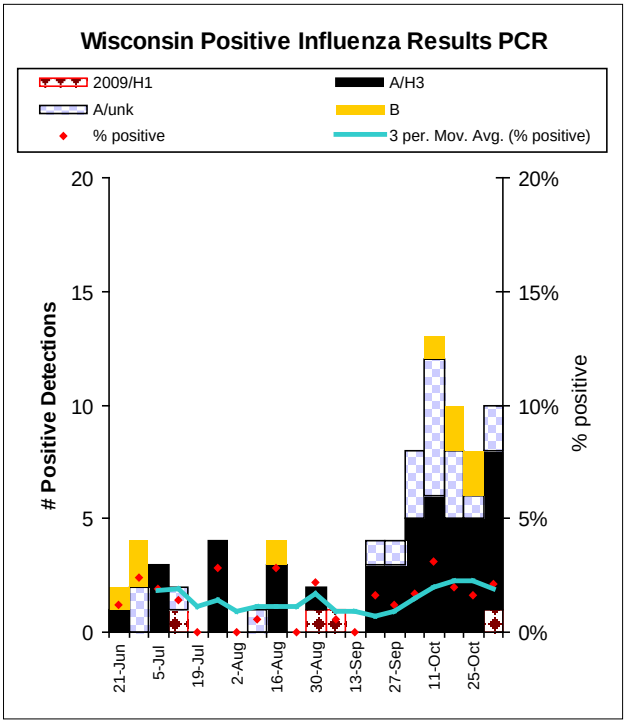
LABORATORY SURVEILLANCE FOR RESPIRATORY VIRUSES (PCR)

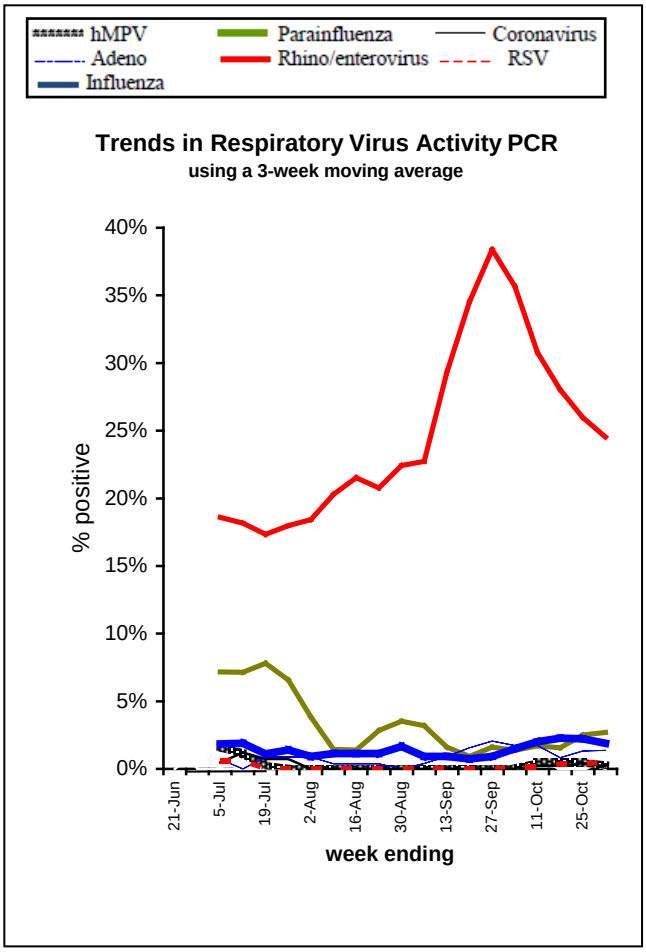
Respiratory Agent	Tested	Positive	% Positive	Flu A 2009/H1N1	Flu A Seasonal H3	Flu A (Unk)	Flu B
Influenza	477	10	2.1%	1	7	2	0

Respiratory Agent	Tested	Positive	% Positive	P1	P2	P3	P4
Parainfluenza	238	6	2.5%	0	6	0	0

Respiratory Agent	Tested	Positive	% Positive	CoV-229E	CoV-OC43	CoV-NL63	CoV-HKU1
Coronavirus	173	0	0%	0	0	0	0

Respiratory Agent	Tested	Positive	% Positive
RSV	268	1	0.4%
Human Metapneumovirus	238	2	0.8%
Rhino-entero	238	50	21.0%
Adenovirus	205	4	2.0%





Cumulative number of positive influenza tests
By subtype, October 4, 2014 to present

	A/H3 N2v	2009 A/H1	Seasonal A/H3	A/Unknown	B	Total
Total Number positive	1	1	28	15	5	50
% of Total number positive	2%	2%	56%	30%	10%	100%
	Total Influenza A % 90%				Total Influenza B % 10%	

Influenza-associated Hospitalizations, October 4, 2014 to present

Age Group	*Total Number Reported (2014-15)*	*Influenza Subtypes*					*Admitted to ICU*	*Required Mechanical Ventilation*
		2009 H1N1	H3N2	A/Unknown or undetermined	B	Not reported		
< 1 year	0	0	0	0	0	0	0	0
1 to 4	1	0	0	1	0	0	0	0
5 to 17	1	0	0	1	0	0	1	1
18 to 49	4	0	0	2	2	0	0	0
50 to 64	6	0	1	3	2	0	0	0
65 and over	17	0	0	10	6	1	2	0
Total	29	0	0	17	10	1	3	1

Hospitalization graphics will be added later in the season

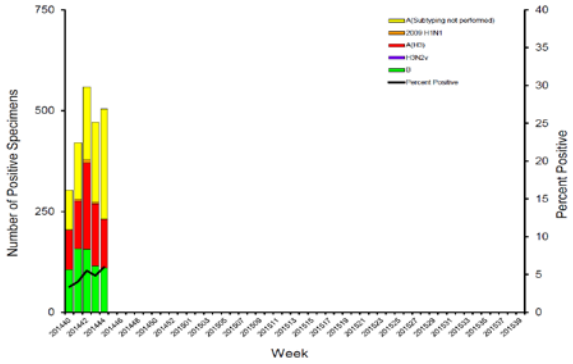
Incidence/100,000*

Age group	Wisconsin	National

NATIONAL INFLUENZA SURVEILLANCE

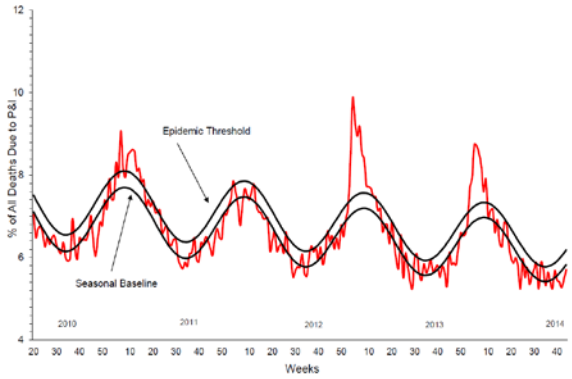
	Week 44
No. of specimens tested	8,439
No. of positive specimens (%)	504 (6.0%)
Positive specimens by type/subtype	
Influenza A	394 (78.2%)
2009 H1N1	1 (0.2%)
H3	120 (30.5%)
Subtyping not performed	273 (69.3%)
Influenza B	110 (21.8%)

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15

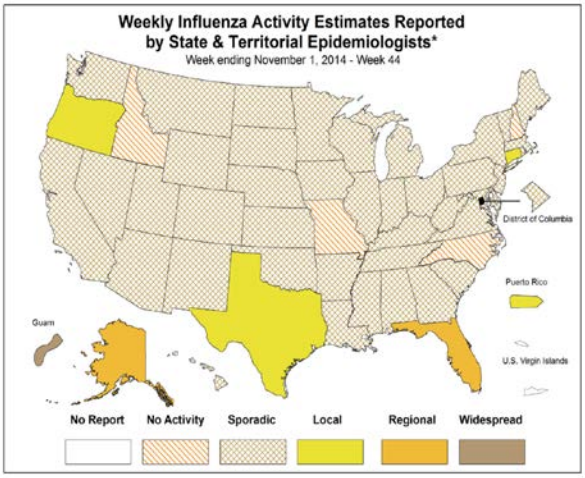


Pneumonia and Influenza (P&I) Mortality Surveillance: During week 44, 5.7% of all deaths reported through the 122 Cities Mortality Reporting System were due to P&I. This percentage was below the epidemic threshold of 6.2% for week 44.

Pneumonia and Influenza Mortality for 122 U.S. Cities
Week ending November 1, 2014

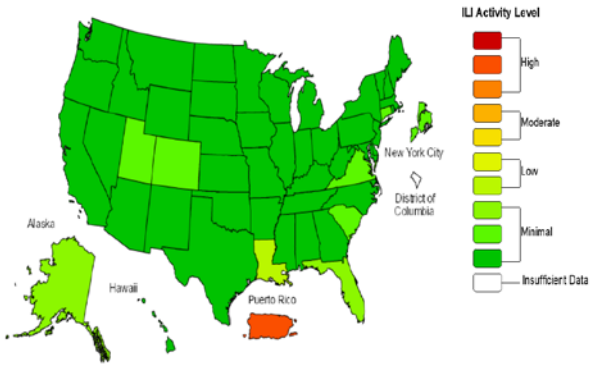


Weekly Influenza Activity Estimates Reported by State & Territorial Epidemiologists*
Week ending November 1, 2014 - Week 44



* This map indicates geographic spread & does not measure the severity of influenza activity

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet
2014-15 Influenza Season Week 44 ending Nov 01, 2014



*This map uses the proportion of outpatient visits to health care providers for influenza-like illness to measure the ILI activity level within a state. It does not, however, measure the extent of geographic spread of flu within a state. Therefore, outbreaks occurring in a single city could cause the state to display high activity levels.

Antigenic Characterization: CDC has antigenically characterized 10 influenza A (H3N2) viruses collected by U.S. laboratories since October 1, 2014 by hemagglutination inhibition (HI).

Influenza A (H3N2) [10]:

- Seven (70%) of the 10 influenza A (H3N2) viruses tested were characterized as A/Texas/50/2012-like, the influenza A (H3N2) component of the 2014-2015 Northern Hemisphere influenza vaccine. Three (30%) viruses showed reduced titers with antiserum raised against A/Texas/50/2012, but were antigenically similar to A/Switzerland/9715293/2013, the H3N2 virus selected for the 2015 Southern Hemisphere influenza vaccine. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable from the A/Texas/50/2012 vaccine virus. A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March of 2014 and began to circulate in greater numbers over the spring and summer.

CDC previously reported that 49% of H3N2 viruses collected worldwide from May 18-September 20, 2014 were antigenically similar to A/Texas/50/2012 ("Update: Influenza Activity – United States and Worldwide, May 18-September 20, 2013" in the MMWR) and 42% of H3N2 viruses collected in the United States during that time were antigenically similar to A/Texas/50/2012 (FluView Week 40). CDC conducts antigenic characterization of influenza viruses year-round to compare how similar currently circulating influenza viruses are to those included in the influenza vaccine, and to monitor for changes in circulating influenza viruses.

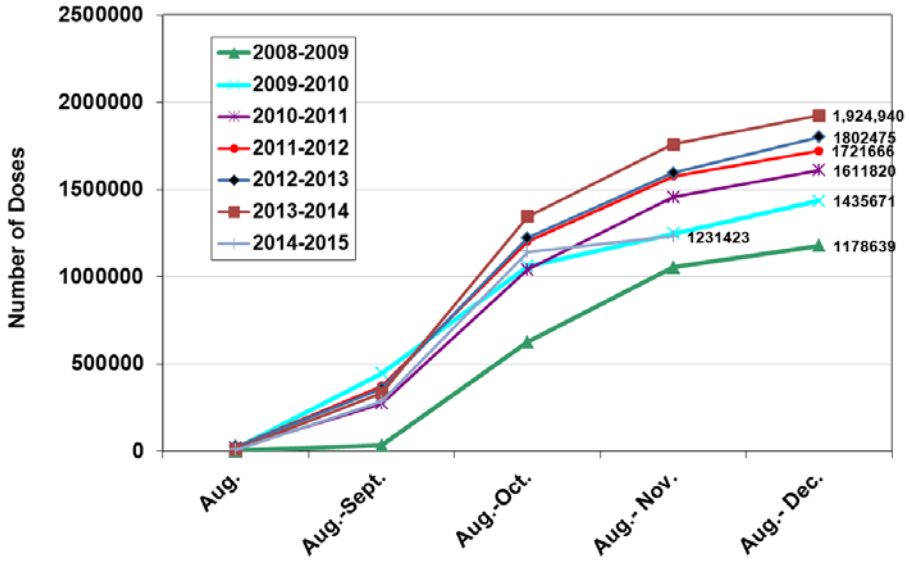
Neuraminidase Inhibitor Resistance Testing Results on Samples Collected Since October 1, 2014

	Oseltamivir		Zanamivir	
	Virus Samples tested (n)	Resistant Viruses, Number (%)	Virus Samples tested (n)	Resistant Viruses, Number (%)
Influenza A (H3N2)	6	0 (0.0)	6	0 (0.0)
Influenza B	0	0 (0.0)	0	0 (0.0)
2009 H1N1	0	0 (0.0)	0	0 (0.0)

Seasonal Influenza Vaccination in Wisconsin
Based on Doses Reported to the Wisconsin Immunization Registry (WIR)
November 7, 2014

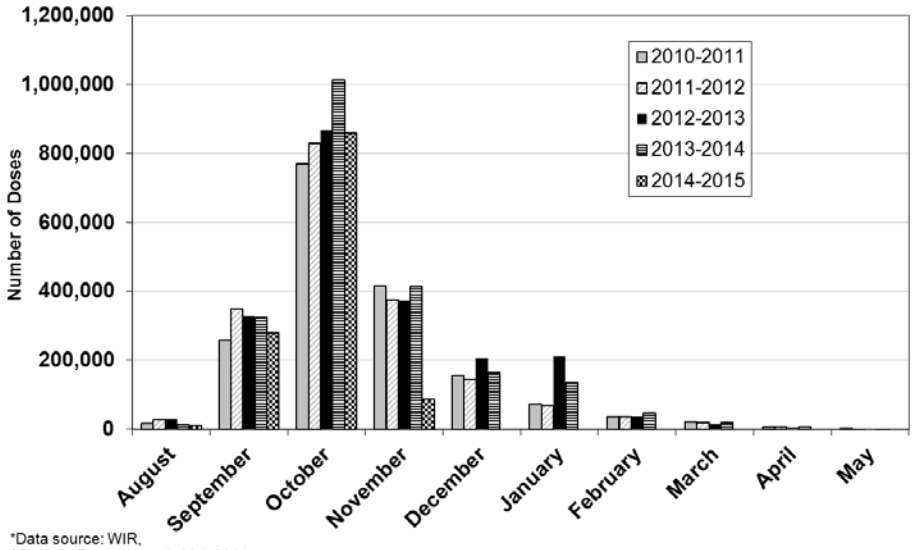
Data for 2014-2015 Season Reported for 8.1.14-11.6.2014

Cumulative Doses of Seasonal Influenza Administered and Reported to the WIR, 2008-2015 Influenza Seasons



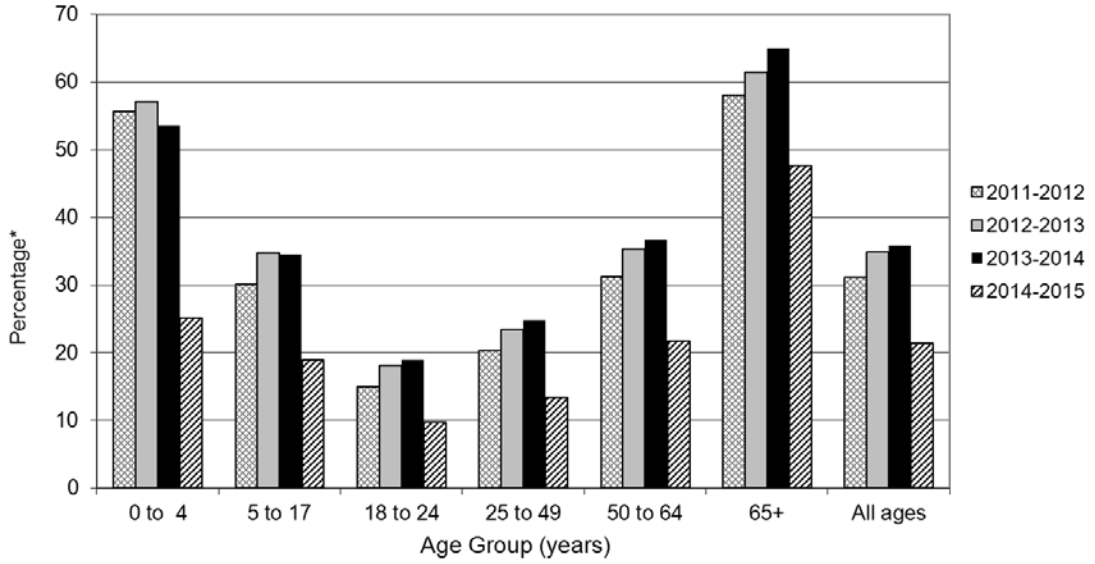
Data source: WIR
2014-2015 data 8.1.14 through 11.7.2014

Number of Doses of Seasonal Influenza Vaccine Administered and Reported to the WIR, by Month for Influenza Seasons 2010-2015



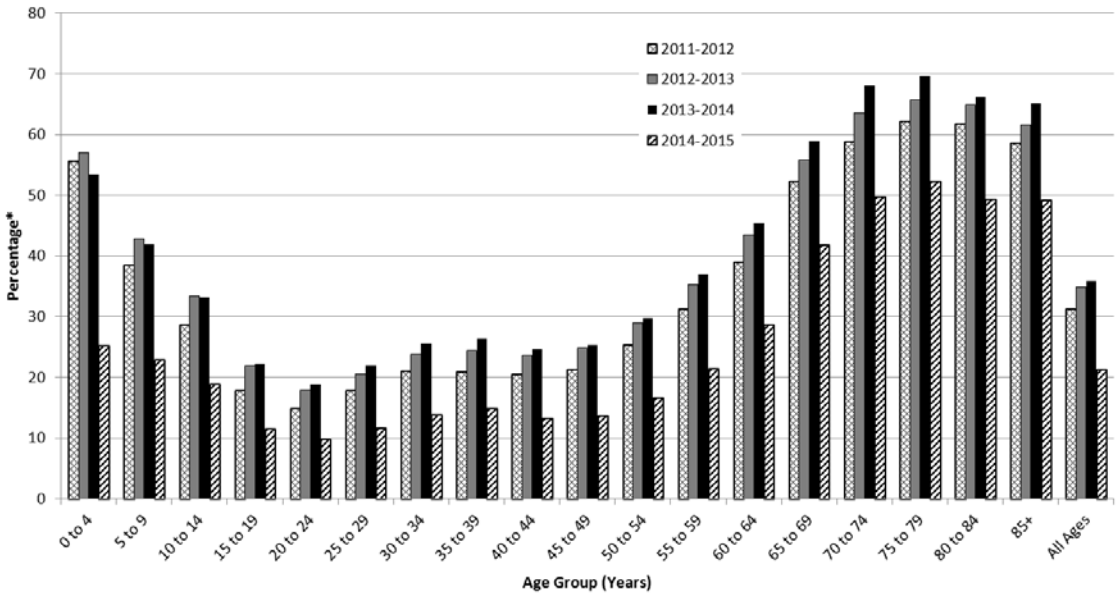
*Data source: WIR,
2014-2015 data through 11.6.2014

Rates of Influenza Vaccination in Wisconsin by Age Group, 2011-2015 Influenza Seasons, Based on Doses Reported to the Wisconsin Immunization Registry (WIR)



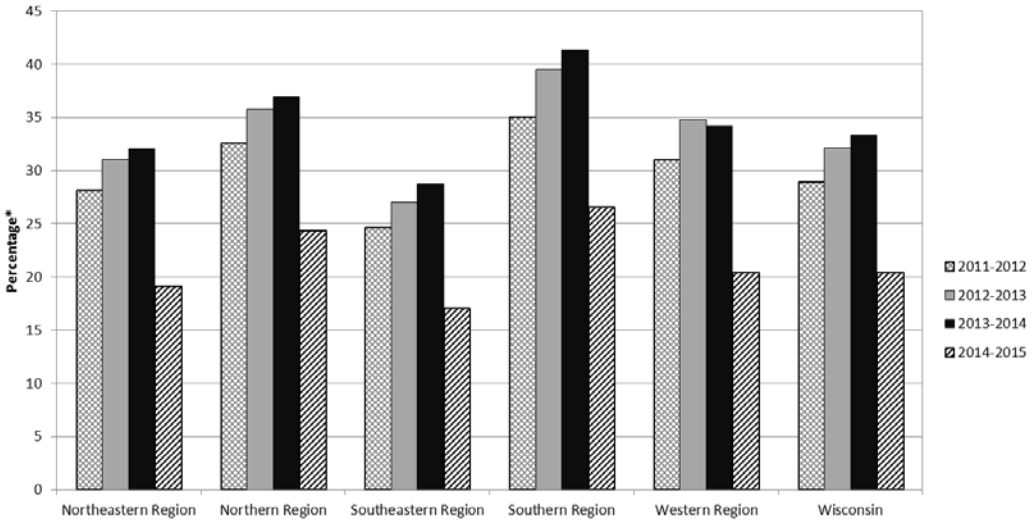
* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by age group. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 12/2/2013. For 2012-2013 season, doses adminstered between 8/1/12 to 7/31/13, assessed 12/2/2013. For 2013-2014, doses administered between 8/1/13 to 7/31/2014, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 11/6/2014, assessed 11/7/14. Denominator source: 2011 and 2012 Wisconsin Interactive Statistics on Health (WISH) population estimates, by age group.

Rates of Influenza Vaccination in Wisconsin by Age Group, 2011-2015 Influenza Seasons, Based on Doses Reported to the Wisconsin Immunization Registry (WIR)



* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by age group. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 12/2/13. For 2012-2013 season, doses adminstered between 8/1/12 to 7/31/13, assessed 12/2/2013. For 2013-2014, doses administered between 8/1/13 to 7/31/14, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 11/6/14, assessed 11/7/14. Denominator source: 2011 and 2012 Wisconsin Interactive Statistics on Health (WISH) population estimates, by age group.

Rates of Influenza Vaccination in Wisconsin by Region, 2011-2015 Influenza Seasons, Based on Doses Reported to the Wisconsin Immunization Registry (WIR)



* Numerator: Number of persons recorded in the WIR as having received at least one dose of seasonal influenza vaccine by region. For 2011-2012 season, receipt of vaccine between 8/1/11 and 7/31/12, assessed 11/27/13. For 2012-2013 season, doses adminstered between 8/1/12 to 7/31/13, assessed 11/27/13. For 2013-2014, doses administered between 8/1/13 to 7/31/14, assessed 8/15/14. For 2014-2015, doses administered between 8/1/14 to 11/6/14, assessed on 11/7/14. Denominator source: 2011 and 2012 Wisconsin Interactive Statistics on Health (WISH) population estimates, by region.

- These graphs include only doses of seasonal influenza vaccine administered and reported to the Wisconsin Immunization Registry (WIR).
- Data for 2014-15 season is incomplete because of the expected lag between the vaccine administration date and the date reported to the WIR, which may be a short as one day or as long as several months, depending on the submitter. Therefore, the current season's data will be adjusted as additional data is received.
- While use of the WIR is not mandatory, the WIR receives data from a variety of sources, including health care providers, health maintenance organizations, local health departments and tribal health centers/clinics, schools and pharmacies.
- For additional information regarding the immunization data, please contact Ashley Petit, epidemiologist, with the Wisconsin Immunization Program at (608) 266-7797.